RESCA-E

Receptive, Expressive & Social Communication Assessment

Elementary

Technical Manual

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Section 1:

INTRODUCTION TO THE *RESCA-E*

RATIONALE

The *Receptive, Expressive & Social Communication Assessment-Elementary (RESCA-E)* is a comprehensive assessment that provides information about a child's receptive, expressive, and social language development, in addition to social communication behaviors. The *RESCA-E* was developed as a result of extensive research, review of best practices, expert opinion, and more than 60 years of collective clinical experience of the authors, who are practicing speech-language pathologists.

Over the last two decades, there has been a surge in the number of children who have been diagnosed with autism or who have social language or pragmatic deficits. For example, the number of children ages 3 to 21 receiving special education services for a diagnosis of autism increased from 93,000 in the 2000-2001 academic year to 455,000 in 2011-2012 (U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics [NCES], n.d.).

Practicing clinicians have found it challenging to assess the language function of these children using traditional language assessment tools, which are typically designed to identify receptive and expressive language deficits such as specific language impairment (SLI). In addition, the few available assessments of pragmatics and social communication skills are narrow in scope and typically do not assess other aspects of language (Swineford, Thurm, Baird, Wetherby, & Swedo, 2014). The *RESCA-E* authors determined that existing assessment tools were not providing much-needed information about the complex issues of the increasing numbers of children receiving speech therapy services, especially in social communication. Research has consistently shown that children with language impairments, auditory processing disorder, autism spectrum disorder, learning disabilities, ADHD, seizure disorders, fetal alcohol syndrome, and mental health disorders often have co-occurring deficits in social communication skills (Kjellmer,

& Olswang 2013; Marton, Abramoff, & Rosenzweig, 2005; McClure et al., 2005; Rice, Warren, & Betz, 2005; Russell, 2007; St Clair, Pickles, Durkin, & Conti-Ramsden, 2011; Swineford et al., 2014; Winner, 2007).

The *RESCA-E* provides a way to look at a child's social language skills from both a micro-skill level and a macro-communication level and to synthesize the information from both perspectives. The *RESCA-E* includes subskills that can be assessed in a standardized way (such as the comprehension of body language, facial expressions, and vocal emotion) and also offers an observational tool, the *Social Communication Inventory*, which can be used to gather information about a child's "real world" social communication and social behaviors across settings. For children with suspected social communication deficits, it is important to collect information through observation in everyday settings during natural social communication interchanges. Volden and Phillips (2010) note that parent/caregiver assessments such as the *Social Communication Inventory* "allow for the assessment of a larger range of pragmatic abnormalities … (that) may be difficult to elicit in test situations and may occur relatively infrequently" (p. 205). Combining both structured measures and parent report may lead to a more valid and complete assessment of a child's language skills (Bishop & McDonald, 2009).

The *RESCA-E* is specifically designed for use with children at both ends of the social-linguistic spectrum. Some high functioning children can be quite skilled in the use of language for discrete, decontextualized testing tasks (e.g., naming opposites, picture naming, vocabulary, morphology and syntax skills, rote sentence memory tasks) but may be less proficient with higher order, abstract and dynamic language tasks. For example, there is increasing evidence that children with autism show a preference for what Happé and Frith (2006) describe as a local or detail oriented processing style (also termed *weak central coherence*). However, they note that "people with ASD can process globally for meaning when explicitly required to do so" (p. 21). Therefore, the *RESCA-E* also includes tasks that require conceptualization of the "whole" (e.g., narrative tasks, picturing how a correctly completed oral direction would look) in order to assess holistic language function.

Meta-linguistic and functionally-based tasks, sometimes referred to as *complex processing* tasks, may be more sensitive to identifying children with language impairments (Hoffman, Loeb, Brandel, & Gillam, 2011; Webster et al., 2006). These types of higher level and abstract tasks play a large role in day-to-day communication and the development of literacy. However, they are often omitted from common elementary language batteries, giving the impression that a child may have normal language function when in fact he or she does not. The *RESCA-E* examines these complex processing skills with subtests that assess various aspects of narrative competency, and with subtests that include higher level social communication items.

At the other end of the spectrum are children at the beginning stages of their language development (single words, short phrases) and whose language goals may be at the level of increasing vocabulary and morpho-syntactic skills. These children are often unable to be tested by traditional elementary-age comprehensive

language assessments, which may prove too challenging. The *RESCA-E* provides tasks in the Receptive and Expressive Cores and supplemental subtests that are relevant to this population. A graded qualitative scoring system was incorporated into some subtests to allow the examiner to track smaller changes in expressive language progress. While these early language learners may not be testable with the Social Communication Core subtests because of their language deficits, the examiner can use the *Social Communication Inventory* to note social communication behaviors and to track progress.

The *RESCA-E* provides information about one of the most common concerns about school-aged children, the ability to follow directions. Traditional batteries typically require that the child point to or manipulate requested shapes, which assesses concept development (e.g. first/last, left/right) as well as the ability to process longer or multi-step directions. While this approach provides some information about a child's ability to comprehend the content of oral directions, the authors felt that it did not adequately assess comprehension of directions during practical everyday tasks. In addition, scoring traditional "following directions" tasks can be challenging. These tasks require the examiner to multi-task, observing the child's responses while simultaneously visually scanning the test plates for scoring accuracy, and sometimes also participating at required times on cue as part of the task. The design of the *RESCA-E* Comprehension of Oral Directions subtest provides a broader and more functional assessment of how a child comprehends oral directions, but its multiple-choice format is easier to administer and score than traditional oral directions subtests.

Likewise, the authors recognized that a child may understand the linguistic content of an oral direction, but this knowledge may not necessarily translate into accurate or efficient execution. For this reason, the *RESCA-E* incorporates a revolutionary way to allow an examiner to contrast *comprehension* of directions (Comprehension of Oral Directions) with ability to accurately *execute* directions (Executing Oral Directions).

Without a comprehensive and flexible tool such as the *RESCA-E*, examiners need to administer a battery of separate assessments in order to provide the information required to assess children with complex language needs. Having all of the key components of the assessment in one test, pared down to the most essential elements, streamlines the assessment process, resulting in reduced expense and time for both examiner and child.

Theoretical Constructs

The following sections provide an overview of the theoretical constructs that underlie the structure of the *RESCA-E*, along with a review of research for each subtest.

Social communication is "the synergistic emergence of social interaction, social cognition, pragmatics (verbal and nonverbal), and receptive and expressive language processing" (Adams, 2005, p. 182). In other words, receptive and expressive

language skills are necessary components of social communication. This triad (receptive language, expressive language, and social communication) is the basis for the *RESCA-E's* three-core design.

The *RESCA-E* assesses social communication skills from three perspectives: language learning, social cognition, and executive function. A child must develop and integrate skills across all three domains to become competent in social communication.

An understanding of the language-learning process forms the first component of the *RESCA-E* approach to social language assessment. There are various models that describe the process of language learning and development. The *RESCA-E* is grounded in the Intentionality Model of language acquisition (Bloom & Tinker, 2001). Longtin and Gerber (2008) suggest that this model may be particularly helpful when considering the development of individuals with social communication challenges. The Intentionality Model posits that language learning is an inherently social process that develops through the ongoing tension between two core constructs: engagement and effort. Engagement involves a child's desire to share thoughts and feelings with others, and is the motivation for learning language. Effort is the amount of work required for learning and involves a child's cognitive resources (Beck, Kumschick, Eid, & Klann-Delius, 2012; Bloom & Tinker, 2001).

In this model, language competencies, including the form (phonology, syntax, and morphology), content (semantics), and use (pragmatics) of language, develop as interwoven elements that depend on the need and desire for social communication in order to practice and develop these skills. The *RESCA-E* considers that language develops from the intersection of vocabulary, the listener's desire for information and mutual sharing, and the need for elaboration of complex and abstract ideas. As these areas develop, the form of language must change and progress to meet higher-order communication demands. Language tasks in the Receptive and Expressive Cores draw from this model and provide assessment of language skills that are linguistically, socially, and academically relevant.

Social cognition is the second component of the *RESCA-E* social language model. The *RESCA-E* uses Winner's (2014) definition of social cognition: the "form of intelligence which allows us to create meaning from our ability to listen, observe, and consider people in context. Our social cognition also provides us with the tools to effectively communicate our social behaviors (language, gestures, facial expressions, etc.) in a manner that keeps other people comfortable." Social cognition relies on theory of mind, perspective-taking, and emotion and facial recognition. These abilities may be less developed in children with autism and social communication deficits (Baron-Cohen, 1995; Oerlemans et al., 2013; Winner 2007).

Social cognitive skills overlap, are woven into a number of communication tasks, and clearly impact a child's interest in interacting with others and the amount of cognitive effort it takes to do so *(What do I know about the speaker's emotional state, given the vocal intonation I hear? What should I tell you about me? Why did this character react this way? What should I say when I don't like*

what you've offered me?) The *RESCA-E* includes tasks that address social cognition skills throughout all three cores, because deficits in these skills affect receptive and expressive language competencies as well as social communication skills.

Executive function (EF) is the final component of social language assessment in the *RESCA-E*. Executive function "is a broad term encompassing the domains of cognitive abilities that are responsible for initiating, planning, sustaining, and inhibiting thoughts and behavior" (Wittke, Spaulding, & Schechtman, 2013, p. 161). EF includes working memory, inhibitory control, task and attention shifting, and planning and organizing abilities (Dawson & Guare, 2009).

EF skills are one component of the "effort" that contributes to language development, and deficits in these skills have been identified in children with autism and specific language impairment (Im-Bolter, Johnson, & Pascual-Leone, 2006; Rosenthal et al., 2013). A number of researchers suggest that EF deficits contribute to the need for sameness, and difficulty with flexible thinking, set-shifting, and functional communication seen in individuals with autism (Happé, Booth, Charlton, & Hughes, 2006; Wetherby & Prizant, 2000). Additionally there is substantial interest in the relationship between EF and social cognition skills, with some researchers suggesting that EF deficits might interfere with theory of mind development in individuals with autism (Carlson, Mandell, & Williams, 2004; Pellicano, 2007).

Traditional language tests often provide a series of questions in a subtest that repeat a particular pattern (e.g., "What is the opposite of … ?"). In developing the format for the *RESCA-E*, the authors felt that the examinee's ability to move from one kind of task to another within a subtest (e.g. describe a picture, describe yourself) was more representative of the dynamic nature of communication. Therefore, the authors intentionally sought to provide a format that would avoid rote skills and response patterns wherever possible, while still conforming to the needs of the standardization process.

Description of Subtests

Receptive Language Subtests

Receptive language refers to the comprehension of language, and it is critical for communication success. It is considered an important feature of language assessment (American Speech-Language-Hearing Association [ASHA], 2004). The *RESCA-E* assesses core receptive language skills and knowledge at the word, sentence and narrative level.

Comprehension of Vocabulary

The purpose of this subtest is to determine ability to associate a word or concept with a picture that depicts it. The child is asked to point to the picture (from a group of four choices) that best shows the requested concept.

The *RESCA-E* includes receptive vocabulary assessment because it is a common deficit in children with language-learning deficits and pragmatic language impairment (Gray, 2006; Ketelaars, Hermans, Cuperus, Jansonius, & Verhoeven, 2011; Parsons, Law, & Gascoigne, 2005; Rice et al., 2005). Additionally, receptive vocabulary predicts a number of reading skills, including comprehension, decoding, and phonological skills. Therefore assessment of vocabulary may be important for at-risk and struggling readers (Kendeou, van den Broek, White, & Lynch, 2009; Muter, Hulme, Snowling, & Stevenson, 2004; Nation; 2006; Ouellette, 2006; Wise, Sevcik, Morris, Lovett, & Wolf, 2006).

The format for this subtest incorporates several unique features. First, the target word is spoken twice. This redundancy was incorporated to reduce the effect of attention or auditory discrimination deficits. Second, the vocabulary target is incorporated into a stimulus question that provides a more natural context for recognition (e.g., "Slipping. Touch someone slipping."). Targets include a broad semantic range, including categorical words, adjectives, verbs, multiple meanings, and abstract concepts, which are the same semantic types that are included in the parallel expressive vocabulary subtest, Expressive Labeling of Vocabulary.

Comprehension of Oral Directions

The purpose of this subtest is to determine ability to attend to an instruction, conceptualize how it would be carried out, and keep that image long enough to match it with the picture that most closely matches the correct execution of the instruction. It assesses conceptual knowledge of oral direction linguistic concepts typically required of a child in a classroom or home environment. The child is asked to point to the picture (from a group of four choices) that best shows the completed instruction.

Many clinical populations struggle with following directions, including children with specific language impairment, reading disorders, high functioning autism, ADHD, and auditory processing disorder (Gill, Klecan-Aker, Roberts, & Fredenburg, 2003; McInnes, Humphries, Hogg-Johnson, & Tannock, 2003; Minshew & Goldstein, 2001; Sharma, Purdy, & Kelly, 2009). There has been little research on the validity of traditional following directions task designs. In keeping with the goal of including more functional tasks in the *RESCA-E*, the target prompts include concepts likely to be heard during a child's day and presented in functional settings. Testing tasks and foils were created using school textbooks, observed classroom instruction tasks, field-testing, and knowledge of the expected developmental progression in language complexity.

Comprehension of Stories and Questions

The purpose of this subtest is to determine ability to attend to, comprehend, and recall oral narrative language, and to comprehend questions on the content of a narrative. The child is asked to listen to a story, then point to the picture or text (from a group of four choices) that best shows the response to the stimulus question about the story. Items include a picture-book-style task *(Seena Giving Her Dog a Bath)*, a story that includes literary devices and inference *(Sick Frog)*, a story with made up words that requires significant visualization and working memory *(Drats and Boodles)*, and a story that simulates nonfiction content *(Raheem's Project)*. Question types reflect typical language found in reading comprehension and other academic tasks, such as true/false and exclusion questions. This subtest also includes questions that target emotional state comprehension, which can be difficult for children with social communication deficits (Davis, Dautenhahn, Nehaniv, & Powell, 2006).

Oral narrative comprehension is important for daily communication, and also contributes to the development of literacy skills (Karasinski & Weismer, 2010; Paris & Paris, 2003; Szaflarski et al., 2012). Children are asked to listen to oral lectures and read both stories and content-heavy text as part of their academic curriculum. Difficulty with such tasks may stem from underlying weak spoken-language processing skills, including the higher order language skills involved in oral narrative comprehension (Medwetsky, 2006, 2011). Therefore, a child with weak narrative comprehension may have difficulty with many critical classroom activities. Narrative comprehension difficulties may reflect problems with working memory, expressive and receptive language development, and theory of mind (Karasinski & Weismer, 2010; Szaflarski et al., 2012). Children with diagnoses such as specific language impairment, autism, and learning disabilities may demonstrate challenges with narrative comprehension (Davis et al., 2006; Humphries, Cardy, Worling, & Peets, 2004; Karasinski & Weismer, 2010; Szaflarski et al., 2012).

Story comprehension tests often require an oral response. However, when children have an expressive language deficit, it is difficult to determine if an inaccurate response reflects a comprehension difficulty or poor expressive skills (i.e., Does the child know the answer but is unable to formulate it with clarity? Is this response close enough to the answer to receive full credit?). Therefore, the *RESCA-E* incorporates closed-set pointing choices for the response format in order to minimize the impact of expressive language and confounding variables on the child's score and to reduce examiner subjectivity in scoring responses. This format can help examiners determine if a child's weak expressive narrative skills are in part the result of lack of narrative comprehension (which this subtest assesses) or if the difficulty is specific to expressive narrative tasks (which are assessed in the Expressive Language Core).

The questions posed during narrative comprehension assessment can be confusing for a child with language deficits (Merritt & Liles, 1987). The questions in this subtest increase in linguistic complexity and reflect the progression of concepts in Bloom's Taxonomy (i.e., remember, understand, apply, …). Since

narrative comprehension is assessed by a child's response to the questions asked, it is incumbent upon the examiner to be aware that the subtest is assessing not only the child's receptive comprehension of the content, but also the questions themselves.

Comprehension of Basic Morphology and Syntax

Morphology and syntax comprehension and use are key components of a comprehensive speech and language assessment (ASHA, 2004). The *RESCA-E* allows the examiner to assess these skills in elementary students who may still be working at a basic morpho-syntactic level. This is a supplemental subtest, since some elementary school-aged students may not need assessment in this area. The task set up is similar to other traditional basic morpho-syntactic tests for these skills: the examiner reads a sentence and the examinee points to the correct picture from a field of four choices. Working memory load can affect grammatical comprehension (Robertson & Joanisse, 2010). Therefore, the authors were careful to limit working memory load by eliminating superfluous descriptors, keeping sentences short, and making the core linguistic targets part of the stimulus.

Research in this area has consistently found that morphology and syntax are particularly problematic for children with specific language impairment, autism, dyslexia, and Down syndrome (Abbeduto et al., 2003; Botting & Conti-Ramsden, 2004; Eigsti & Bennetto, 2009; Rice et al., 2005; Siegel, 2008). Both longitudinal and cross-sectional studies have found a relationship between receptive morpho-syntactic skills and reading comprehension, suggesting that this is an important skill to assess in children who are at risk for, or are demonstrating, reading difficulties (Botting, Simkin, & Conti-Ramsden, 2006; Siegel, 2008).

Executing Oral Directions

This innovative subtest was designed to provide critical information regarding how accurately a child can perform a given oral instruction. In a natural setting children often receive oral directions that require a fine-motor, gross-motor, or verbal response. Directions are rarely given in a sterile clinical environment, with the student conveniently seated without distractions. This subtest examines ability to follow directions given the introduction of external distractors, increasing complexity of directions, increasing demands on working memory, and the introduction of fine and gross motor tasks.

Children with speech and language impairment often manifest working memory deficits (Archibald & Gathercole, 2006; Karasinski & Weismer, 2010; Montgomery, Magimairaj, & Finney, 2010) as well as problems with motor and visual-perceptual skills (Powell & Bishop, 2008; Webster et al., 2006). In addition, children with autism spectrum and developmental disorders frequently struggle with transitions, inhibitory behavior, impulse control, and interruption of activity (such as is required in Item 4 of this subtest). Vocabulary content and syntax of the stimulus were purposely simplified to reduce the influence of linguistic-syntactic confusion.

Expressive Language Subtests

Expressive language refers to the verbal expression of language and is considered an important feature of language assessment (ASHA, 2004). Children with poor expressive language skills are at a distinct disadvantage in social and academic settings, and this can contribute to behavioral and emotional difficulties (Coplan & Armer, 2005; St. Clair et al., 2011). The *RESCA-E* assesses core expressive language skills and knowledge at the word, sentence, and narrative level.

Expressive Labeling of Vocabulary

The purpose of this subtest is to assess single-word labeling skills. The child is asked to provide a single word label for a displayed picture. This subtest is particularly helpful for children who have minimal expressive language development such as those with a developmental disability. A graded qualitative scoring approach inspired by the *Porch Index of Communicative Ability-Revised (PICA-R)* (Porch, 2001) was utilized for this subtest. The scoring system recognizes semantically close word choices as having some language value (as opposed to inaccurate choices or a lack of response), and provides partial credit for these answers. For example, a child who labels *cup* as *house* or gives no response receives a zero. A child who uses the word *glass* or *drink* which is significantly closer in semantic accuracy receives partial credit. This approach may be more sensitive to small changes in linguistic improvement, and subsequently may be more effective in tracking progress.

Children with specific language impairment often have a slower rate of retrieval during picture naming tasks and demonstrate weaker lexical-semantic organization (Leonard & Deevy, 2004; Sheng & McGregor, 2010; Wiig, Semel, & Nystrom, 1982). Recent research provides more information about how phonotactic pattern frequency (i.e., the frequency of sound sequences) can also play a part in the word retrieval process (Coady, 2013; Leonard, 2014). German (2000) describes in excellent detail the complex factors that differentiate a lack of expressive vocabulary acquisition with word retrieval difficulties. Examiners are encouraged to analyze the examinee's phonologic and semantic response patterns in this subtest, as well as score differences between this subtest and the Comprehension of Vocabulary subtest in the Receptive Core in order to determine whether further testing for word retrieval deficits is appropriate.

The format of the items elicits vocabulary in a functional and natural way, asking direct questions *("What color is it?")* and using cloze technique to elicit target vocabulary. *("This is a long snake. How about this one? This snake is…")*. This cloze technique is typically used in morpho-syntactic testing, but rarely in vocabulary tests. The authors felt that stimulus items would be accessed more easily given this format, and it would be clearer to the examinee what aspect of the picture was targeted.

Expressive Skills for Describing and Explaining

This subtest assesses ability to use language to describe or explain. Children with language impairments often develop single word vocabulary competence yet struggle with knowing how and when to put words together to express more sophisticated ideas, such as for descriptive language tasks (Nippold, Mansfield, Billow, & Tomblin, 2008; Wetherell, Botting, & Conti-Ramsden, 2007). They may also demonstrate poor attention and memory (Ebert & Kohnert, 2011; Gillam, Montgomery, & Gillam, 2009). Task demands (for example, talking about something a child can see vs. something a child can't see or an event that happened in the past) can further impact ability to sustain attention, maintain a topic, and access linguistic and experiential knowledge. Therefore, the *RESCA-E* includes tasks that require these skills and simulates everyday language tasks, as opposed to tasks that assess only single-word semantic skills.

The tasks on this subtest assess how a child uses language both with and without picture support. The tasks require use of the concept of saliency *(What is important or noteworthy about this picture or topic?)*, accuracy of vocabulary, and word retrieval skills. The grocery store scene task not only requires these skills, but also probes language and social cognition on a deeper level *(What's going on with this picture? What is this person thinking? What is the story it is trying to tell?),* which is often more challenging for children with social communication deficits. This requires linguistic organization *(What do I talk about first?)*; facial expression, body language, and emotional state inference; perspective-taking; more sophisticated vocabulary choices; visual scanning and perception; and sustained attention to the task. For children who are trying to make sense of what is happening around them, these are complex, integrated skills that are necessary for social language competence.

On the remaining tasks without picture support, the examinee is asked to describe or explain something familiar (an elephant, oneself, brushing teeth). When communicating, individuals talk about things that happened to them and things they know, and they must access these memory pools in order to share information through oral and written language expression. Such tasks are also often a springboard for more developed conversation and classroom discussion skills (Nippold et al., 2008; Peets, 2009).

Scoring rubrics for these tasks were designed to assess aspects of language competencies that are required for successful completion of these tasks, including semantic language divergence and saliency *(What's important about an elephant? Or me? Or this picture?)*, topic maintenance, and vocabulary in context. Additional clinical observations allow for documentation of skills such as grammatical competency and fluency.

Narrative Skills

This subtest assesses a range of narrative skills and includes tasks that ask the child to retell a story with and without picture supports *(Sara's Furry Surprise)*, create a story with picture support *(Boy Goes Fishing)*, and talk about a personal experience. Botting (2002) notes that "narratives form the basis of many childhood speech acts" and therefore "narrative ability is one of the most interesting and ecologically valid ways in which to measure communicative competences" (p.1). *"Story grammar"* rules described in previous writings and research and used in well-regarded narrative language assessments (Gillam, 2004) were adapted for the storytelling scoring rubric on the *RESCA-E*. The scoring system identifies aspects of content, and there are additional clinical observations of form, as children with language impairments tend to show discrepancies between these skills on narrative tasks (Colozzo, Gillam, Wood, Schnell, & Johnston, 2011).

Because narrative requires integration of multiple skills, numerous aspects of language can be assessed with narrative tasks (Botting, 2002; Ketelaars, Jansonius, Cuperus, & Verhoeven, 2012; Reilly, Losh, Bellugi, & Wulfleck, 2004). This subtest provides an opportunity to examine ability to use language for a higher level task that requires organization, referential skills, working memory, sustained attention, and story grammar. Substantial research shows that children with a variety of conditions, including autism spectrum disorder, specific language impairment, nonverbal learning disorder, and pragmatic language impairment, perform more poorly on storytelling and retelling tasks than their typically developing peers (Bishop & Donlan, 2005; Collozoet al., 2011; Humphries et al., 2004; Ketelaars et al., 2012; Manolitsi & Botting, 2011; Reilly et al., 2004; Wetherell et al., 2007). Narrative may also be a helpful way to assess language skills in bilingual children (Bedore & Peña, 2008; Kohnert, 2010) and African American children (Mills, Watkins, & Washington, 2013).

Context and task demand can influence performance on narrative tasks, so it is recommended that language samples be obtained under a variety of conditions (Peets, 2009). Picture supports have been included in the *Sara's Furry Surprise* story to reduce the auditory, attention, and processing load during the listening and initial retelling of the story. The second retelling of this story was included without picture support to examine how the child's working memory, sustained attention, and organizational skills are affected when an identical task is required, but without picture support. The *RESCA-E* also includes an interview-style conversation because it was felt that this type of task elicits core conversational skills and reflects an additional use of narrative for social communication.

Expressive Use of Basic Morphology and Syntax

Morphology and syntax are considered key areas to be included in any comprehensive speech-language assessments (ASHA, 2004). This subtest is included in the *RESCA-E* to complement the Comprehension of Basic Morphology and Syntax subtest. It uses traditional administration and scoring format.

Social Communication Subtests

Social communication requires competencies in language, social cognition, and social behavior. These skills must be integrated and analyzed during a dynamic communication process. By their nature, standardized tests strip away the very components that are normally present during the social communication process: a natural, changing context and unpredictable people (Norbury, 2014). For this reason, the *RESCA-E* provides both standardized tasks that look at specific subskills of social communication, and the *Social Communication Inventory (SCI)*, which assesses real-world skills. The use of directly administered tasks along with an observational tool provides information not only about a child's "testable" social language knowledge, but also his or her social behavior in the real world. In many cases, a child may exhibit deficits in both standardized social communication tasks and on the *SCI*, but it is also not uncommon for a child to have adequate social-cognitive insight *(I know what to say and what to do; I understand that what I'm saying annoys you)* but not apply this knowledge or regulate behavior as needed in the "real world." This is particularly true if the child has participated in social skills groups. The information from the *RESCA-E* can therefore provide some insight about whether to target intervention to address basic social knowledge or application and generalization.

In developing the tasks for the Social Communication subtests, the authors had to consider the receptive language requirements for these items. The examiner must have confidence that the examinee's receptive language is adequate to comprehend the stimulus prompts. The recommended threshold is a receptive comprehension core ability at the 4-0 year level.

Comprehension of Body Language and Vocal Emotion

The ability to correctly interpret the emotions of others is a critical communication skill. Children with specific language impairment, ADHD, learning disabilities, and ASD may have difficulty inferring emotion from facial expression, body language, and tone of voice (Bloom & Heath, 2010; Delaunay-El Allam, Guidetti, Chaix, & Reilly, 2011; Fujiki, Spackman, Brinton, & Illig, 2008; Lindner & Rosén, 2006; Tracy, Robins, Schriber, & Solomon, 2011; Yuill & Lyon, 2007). In this subtest, the child hears a narrator convey a particular emotion, such as "When are they going to be done?" (impatience). The child is asked to look at four pictures and point to the one that matches the message. A CD is used to administer this task for several reasons. First, it provides standardization of the stimulus prompt. It also removes the temptation of the examiner to use an accompanying facial expression. In other words, it is important that the child not have the additional visual cue of the examiner's expression to match the picture, but rather conjures up the appropriate emotion by listening to both the tone of the message and the message itself.

Social and Language Inference

The Social and Language Inference subtest includes language inferencing (idioms, slang) and situational inferencing. Situational inferencing *(Why is he doing that? Why did he say that? What is she looking at?)* requires perspective-taking, visual comprehension, language comprehension, and social-cognitive skills. Poor inference skills, especially poor emotional inferencing, can impact social competence (Ford & Milosky, 2008). In this subtest the child is asked to point to the picture or statement (from a group of four) that answers an inferential question about the presented language or situation.

Children with autism, semantic-pragmatic difficulties, and language disorders often have difficulty understanding idiomatic language (Norbury, 2004, 2005; Whyte, Nelson, & Scherf, 2014). Assessment of inferential language skills in these populations may be more accurate when the expressive language load is reduced (Kerbel & Grunwell, 1998). Therefore, the *RESCA-E* uses a multiple-choice format to reduce the expressive language load and increase scoring consistency. Additionally, basic receptive language skills, including vocabulary, syntax, and semantic abilities, are strongly predictive of inferential language skills (Whyte et al., 2014), so performance on the Receptive Core and supplemental subtests of the *RESCA-E* should be taken into account when interpreting the results of this subtest.

Situational Language Use

The Situational Language Use subtest looks at ability to use expressive language in a specific social context. Children with language and social communication impairments often struggle with this skill (Adams, Baxendale, Lloyd, & Aldred, 2005; Marton et al., 2005; Tager-Flusberg, Paul, & Lord, 2005), as it requires problem-solving, perspective-taking, and expressive language, all areas of weakness for children with social communication deficits.

The examiner reads a short narrative that describes a situation to the child, who is then asked to use language to convey a requested result (e.g., "What could you say to change your father's mind so he will say yes?"). In this example, the child is given the task to persuade the father. The child's use of language is scored qualitatively with a rubric that looks at both thoroughness of response and politeness.

Elicited Body Language

Social situations often require the ability to mask emotions, such as frustration and disappointment. Successful social interaction may also require the purposeful outward presentation of an emotional state, such as confidence or surprise. This "social fake" is an important skill for children with social communication deficits (Winner, 2007) and requires self-awareness *(Do I project what I think I'm projecting?)* and control of one's face and body for the conveyance of a particular social message.

Children with social communication deficits and autism have difficulty in both hiding and regulating emotions and so may not display the appropriate emotion in a given social situation (Brinton, Spackman, Fujiki, & Ricks, 2007; Fujiki, Brinton, & Clarke, 2002). Children on the autism spectrum have also been described as having an "odd" facial affect (Macdonald et al., 1989).

The Elicited Body Language subtest presents the child with a number of scenarios in which he or she is requested to pretend a given behavior that conveys a specified emotion (e.g., "Pretend you are surprised"), or message (e.g., "Pretend it's too noisy"). Responses are qualitatively scored on the basis of accuracy and thoroughness of response.

Social Communication Inventory

The *Social Communication Inventory* was developed to provide critical information about social behavior across settings. Social communication competence is best evaluated by looking at both discrete testing tasks and behavior within a natural setting (ASHA, n.d.; Bishop & McDonald, 2009; Volden & Phillips, 2010). Parents, caregivers, teachers, or other individuals who know the student well rate various aspects of the student's social communication behavior on a 1-6 Likert scale.

In selecting the items to be included in this Inventory, considerable thought was given to the ability of caregivers and educators to understand each question, the opportunity to observe the behavior asked about, and the time needed to fill out the form. Behaviors were pared down to key social behaviors that could be observed across a wide age and ability range that would evidence skills not otherwise assessed by the *RESCA-E*. The rating scale for the *SCI* targets frequency of the behavior as opposed to an absolute measure of whether the behavior has been observed (e.g. *Does the child make eye contact?*) in order to track progress and more accurately reflect the child's level of competence with a given skill.